Space Weather Forecast

Issued on Tuesday, 04 January 2022 at 12:49 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: No significant activity.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity was Very Low over the past 24 hours. There is one sunspot containing active region on the Earth-facing disc, a new bipolar region in the southeast, although this is small and simple, The larger region that has been moving across the disc through the past week as now rotated off the Earth-facing disc.
No Earth-directed Coronal Mass Ejections (CMEs) have been observed in the available imagery.

Solar Wind / Geomagnetic Activity: Solar winds, observed by DSCOVR and ACE at L1, were initially elevated at around 520km/s with a gradual decline down to slightly elevated levels, at around 440km/s. The interplanetary magnetic field strength, Bt, was generally weak throughout. The all important north-south component (Bz) was initially in a weakly positive orientation, before rotating to become weakly negative. Geomagnetic activity has been mostly Quiet to Unsettled (Kp 1-3).

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) remained at background with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Very Low or Low solar activity is expected, but with a slight chance of Moderate class flares on days 1 and 2 (3rd and 4th).

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs. Solar winds are expected to be easing to background with no notable enhancements expected through the forecast period. Geomagnetic activity will be mainly Quiet with only a slight chance of Unsettled interval.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is forecast to persist at background with no solar radiation storms occurring.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Met Office Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	1	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	5	5	5	5
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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